

REMARKS

Drawing Objections

The Examiner objected to the drawings because FIGS. 2-4 did not have labels for the corresponding block numbers. The drawings have been amended to include labels for elements 6, 10, 12, 14, 16, 18, 20, 34, and 36 in FIGS. 2-4.

The examiner also indicated that formal drawings should be submitted. The applicant submitted formal drawings on March 25, 2002 as indicated on the certificate of mailing for the transmittal of formal drawings sent with the response to the notice to file missing parts (mailed on February 6, 2002). The submission was acknowledged on a postcard received by the applicant, and which was stamped by OIPE on April 4, 2002. However, along with the amended drawings (FIGS. 2-4, 3 sheets), the applicant is submitting a full set of formal drawings (further including FIGS. 1, 5-7, 4 sheets).

Specification Objections

The Examiner stated that the applicant is required to provide a "BRIEF SUMMARY OF THE INVENTION" section heading. The applicant has included all required content as indicated in 35 U.S.C. §111 and 37 C.F.R. 1.51. The examiner has cited 37 C.F.R. 1.77(b) that states "the specification should include the following sections in order ... (6) Brief summary of the invention ..." Since this rule indicates only that the specification "should" include the listed sections, the applicant has chosen not to include the "BRIEF SUMMARY OF THE INVENTION" section.

Claim Objections

The Examiner objected to claim 20. Claim 20 has been amended to correct a typographical error.

Double Patenting Rejections

The Examiner provisionally rejected claims 1-30 under the judicially created doctrine of obviousness-type double patenting over claims 1-23 of co-pending U.S. Application No. 10/041,678. The applicant is filing a terminal disclaimer in compliance with 37 CFR 1.321 to overcome the provisional rejection over commonly owned application 10/041,678.

Claim Rejections

The Examiner rejected claims 1-25 under 35 U.S.C. §101 as being directed to non-statutory subject matter. The Examiner states that claims 1 and 7 recite steps: “which are not in the Technological arts in that they fail to recite steps as executed on or by a Computer” (page 3 of the office action). Applicant contends that the applicant determines the subject matter which the applicant regards as his invention, as provided by 35 U.S.C. §112 paragraph 2: “the specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” Thus, it is inappropriate to reject a claim for failing to recite steps “as executed on or by a Computer.”

The Examiner further states that claims 1 and 7 “do not produce a useful, concrete, tangible result in the Computer technological arts” (page 4 of the office action). However, claim 1 includes the following steps that produce a useful, concrete, and tangible result on, for example, a “cache” and a “memory.” Claim 1 for example recites “storing in memory a queue descriptor ... fetching from the memory *to a cache* one of either the head pointer or tail pointer; and returning *to the memory* from the cache portions of the queue descriptor modified by the operation.” These steps reading on actions that occur within hardware devices, namely a memory and a cache. Claim 7 includes the following steps producing a useful, concrete, and tangible result: “determining whether a head pointer or a tail pointer of a queue descriptor that was fetched from memory *to a cache* had been modified ... and returning a particular pointer *to the memory* from the cache only if that pointer had been modified.”

The Examiner states that the elements of claim 14 are: “either hardware or both hardware and software per se, failing to be tangibly embodied” (page 4 of the office action). However,

claim 14 recites an apparatus comprising memory, a cache, and a processor and includes further language to describe how these elements, all tangibly embodied in the apparatus, are related.

Therefore, claims 1-25 are directed to statutory subject matter.

The Examiner rejected claims 1-30 under 35 U.S.C. §102(e) as being anticipated by Slane (U.S. 6,438,651).

Claims 1-6 are distinct over Slane, since Slane neither describes nor suggests at least “fetching from the memory to a cache one of either the head pointer or tail pointer,” as recited by independent claim 1. Claims 7-13 are distinct over Slane, since Slane neither discloses nor suggests at least “determining whether a head pointer or a tail pointer of a queue descriptor that was fetched from memory to a cache had been modified,” as recited by independent claim 7. Claims 14-25 are distinct over Slane, since Slane neither discloses nor suggests at least “a processor configured to: fetch from the memory to the cache one of either the head pointer or the tail pointer of a particular queue descriptor,” as recited by independent claim 14.

Claims 26-30 are distinct over Slane, since Slane neither discloses nor suggests at least “an article comprising a computer-readable medium that stores computer-executable instructions for causing a computer system to: ... fetch from memory to a cache one of either a head pointer pointing to a first element in a queue or a tail pointer pointing to a last element in the queue,” as recited by independent claim 26.

The Examiner states that Slane teaches a system including “fetching from the memory to a cache one of either the head pointer or tail pointer” at col 2, line 23-26, col 3, line 52-61, fig 2 (pages 7-8 of the office action). In particular, the examiner identifies Slane’s elements 64 and 66 as head and tail pointers, respectively (page 8 of the office action). However, nowhere in the cited portions of Slane, or anywhere in Slane, are either elements 64 or 66 fetched from a memory to a cache. Instead, at column 2, lines 23-26, Slane describes that “consecutive data blocks are fetched from the memory including the requested data block to access if the requested data block is not maintained in one cache line entry and written to the selected cache line.” Furthermore, Slane’s FIG. 2 does not depict or suggest that either of the head and tail pointers 64

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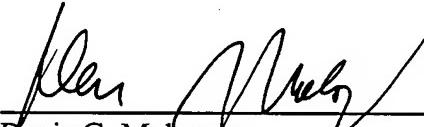
and 66 are fetched from the memory to the cache. Therefore claims 1-30 are patentable over Slane.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific issue or comment does not signify agreement with or concession of that issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper.

Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: 8/9/04


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